

Removing and Replacing the AC Motor Control Electronics Board

In order to replace the AC motor control electronics you will need the following tools:

- #2 Phillips screwdriver or power drill with #2 screw bit

Removing the AC Motor Control Electronics Board

The AC motor control electronics board (AC motor control board) controls the amount of power to the AC motor to regulate its speed. In the event that a CarveWright service technician instructs you to replace this component please follow the procedures described in this document.

1. **Ready the machine.** Unplug the machine from the power outlet and place it on a stable work platform. Remove the dust collection bag from the back of the machine.
2. **Remove the bottom cover.** Carefully lay the machine on its back with the dust collection port facing down. Remove the 12 screws securing the black sheet metal cover onto the base (four of which are located in the rubber feet) and remove it.

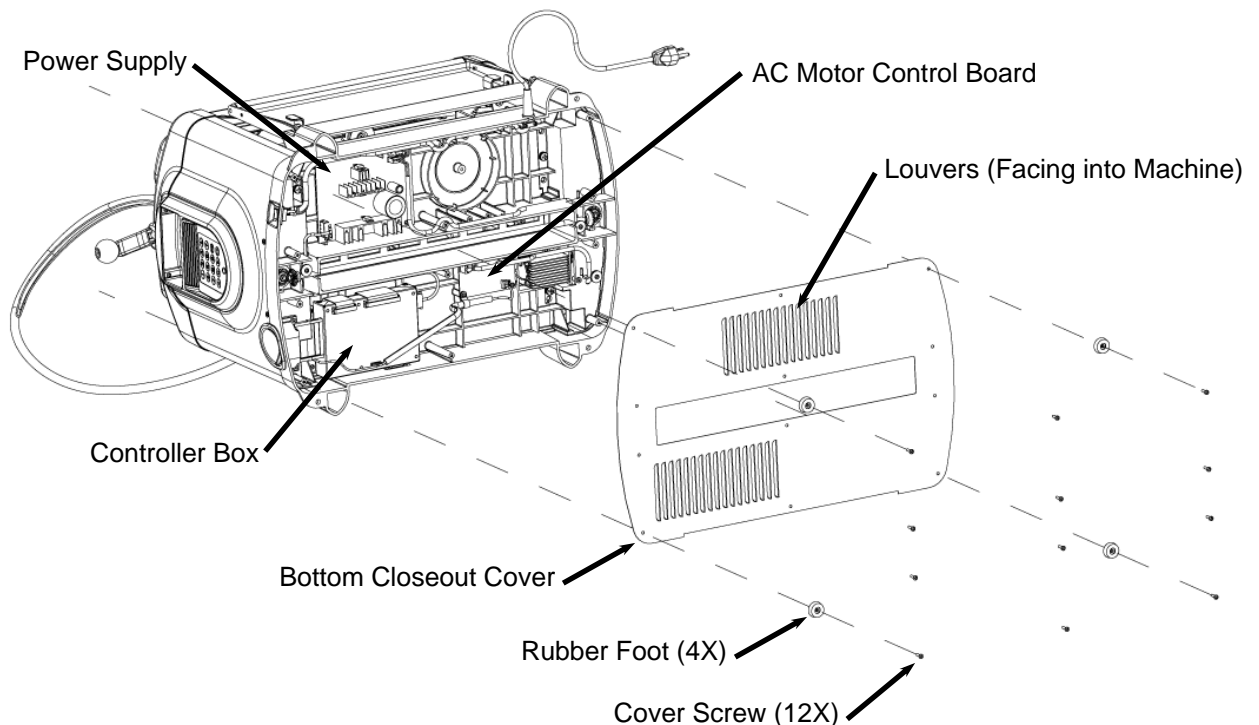


FIGURE 1: REMOVAL OF THE BOTTOM COVER

3. **Unplug the four cables connected to the AC motor control board.** Locate the AC motor control board and unplug the AC motor control cable (from the controller), the X-drive motor pack cable (from the adjacent X-drive DC motor pack), the incoming AC power cable (from the power supply) and the outgoing AC motor power cable (to the AC motor in the head). Please note that while the locations of the connectors in the picture below are correct, the appearance of the real board may differ from the representation in this picture.

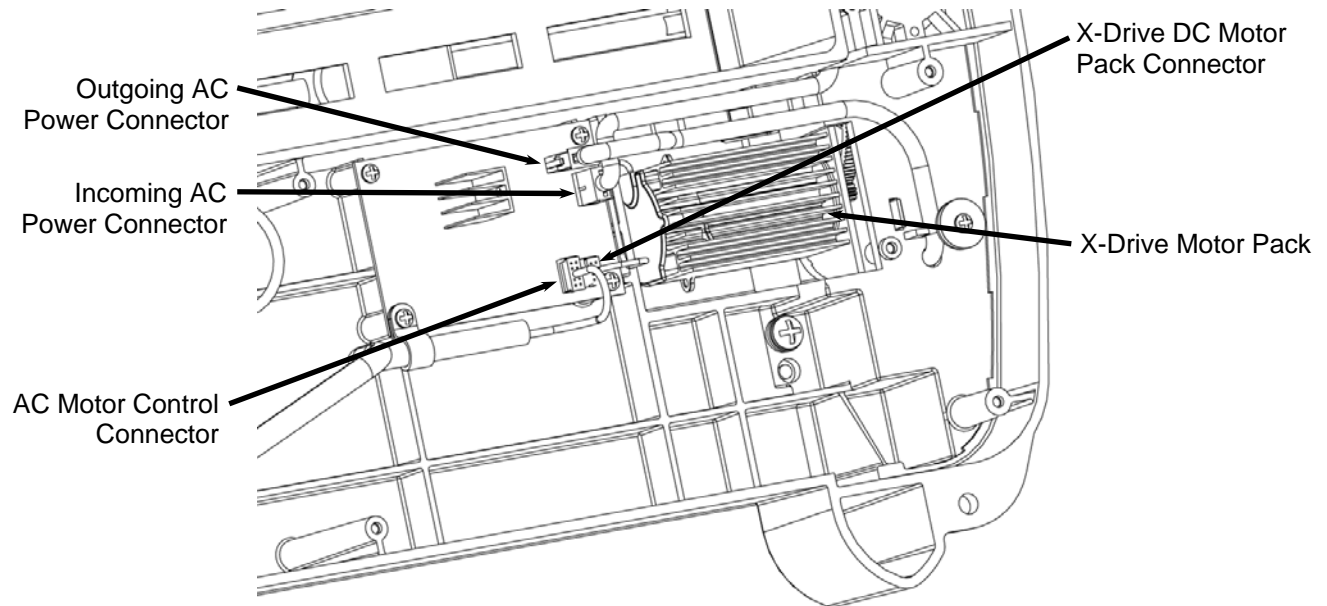


FIGURE 2: LOCATION OF THE AC MOTOR CONTROL CONNECTORS

4. **Remove the AC motor control board.** Use the #2 Philips head screw-driver to remove the four screws that attach the AC motor control board to the base casting and lift the board free.

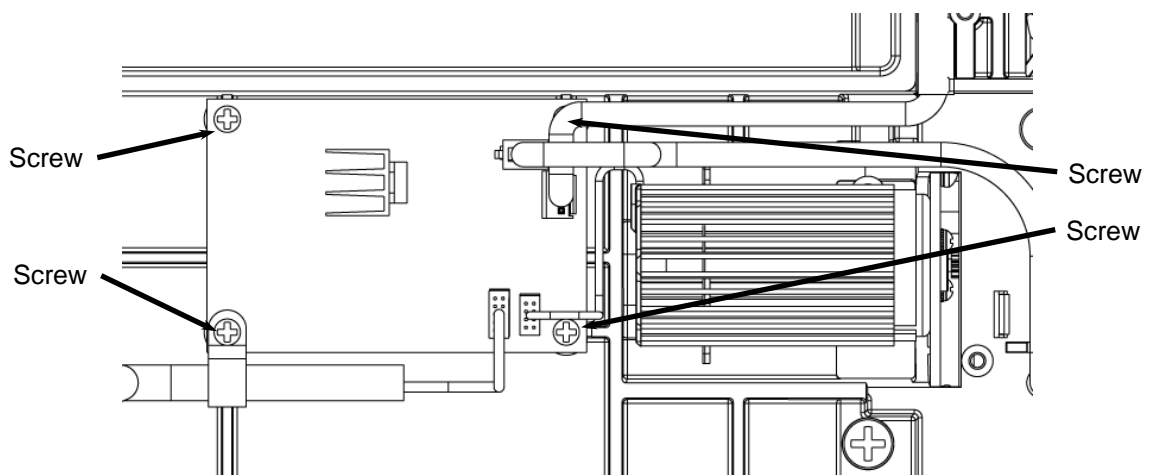


FIGURE 3: AC MOTOR CONTROL BOARD ATTACHMENT SCREWS

Reinserting the AC Motor Control Electronics Board

1. **Insert the new AC motor control board.** Position the new AC motor control board so that the end of the board with the four connectors is close to the X-drive DC motor pack. Position the four corner holes in the board over the holes in the base casting.
2. **Secure the AC motor control board.** Replace and tighten the four screws that secure the AC motor control board to the base casting.
3. **Reconnect the cables to the AC motor control board.** Connect each of the four cables going to the AC motor control board as shown in Figure 2. Each cable connector has an orientation keying feature that restricts the connector from being plugged in backwards. **DO NOT FORCE A CONNECTOR.** If the connector does not seat easily please check the orientation and try again. For the AC motor control cable and the X-drive DC motor pack cable make sure that the white wires are positioned over the pins as shown in Figure 4.

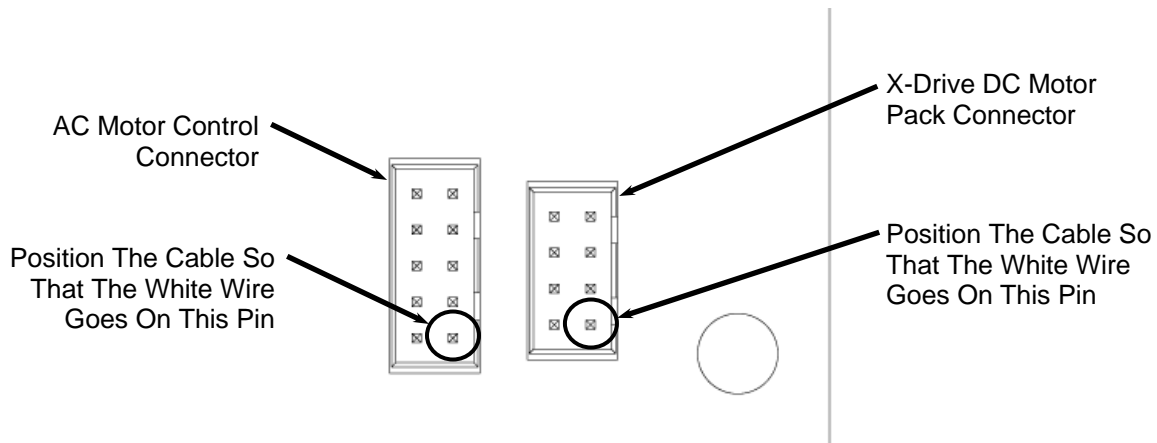


FIGURE 4: CONNECTOR ORIENTATION

4. **Replace the bottom cover.** Replace the metal cover with the louvers pointing into the machine (see Figure 1). Insert and tighten the 12 screws. The four rubber feet are placed at the corners of the machine.